

BIOGRAPHICAL SKETCH

NAME Stepanov, Sergey A.	POSITION TITLE Beamline Controls Scientist		
eRA COMMONS USER NAME			
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Institute of Crystallography, Russian Academy of Sciences, Moscow, Russia Belarussian State University, Minsk, Belarus	Ph.D. M.S.	1985 1978	Physics Physics

Positions and Honors:

- | | |
|--------------|--|
| 2002-Present | Beamline Controls Scientist
General Medicine/Cancer Institutes Collaborative Access Team (GM/CA CAT)
At the Advanced Photon Source
Biosciences Division
Argonne National Laboratory
Argonne, Illinois |
| 1997-2002 | Research Associate Professor (IIT, 2001), Senior Research Assoc. (IIT, before 2001);
Beamline Scientist (BioCAT)
At the Advanced Photon Source
Biosciences Division
Argonne National Laboratory
Argonne, Illinois |
| 1993-1997 | Guest Scientist
Institute of Physics
Humboldt University of Berlin
Berlin, Germany |
| 1987-1997 | Senior Research Associate, Group Leader
Institute for Nuclear Problems
Belarussian State University
Minsk, Belarus |
| 1981-1986 | Research Fellow
Institute of Crystallography
Russian Academy of Sciences
Moscow, Russia |
| 1978-1981 | Research Engineer
“Integral” Microelectronics Inc.
Minsk, Belarus |

Selected peer-reviewed publications

"A new approach to wide-angle dynamical X-ray diffraction by deformed crystals", S. Podorov, N. Faleev, K. Pavlov, D. Paganin, S. Stepanov, and E. Forster, *J. Appl. Crystallogr.*, v.**39** (2006) -- accepted.

"Embedding X-ray server into X-ray data analysis techniques", S. Stepanov, *Thin Solid Films* (2006) – submitted

"Optical performance of the 1st hard X-ray canted undulator beamlines for protein crystallography", R.F. Fischetti, S. Xu, D. Yoder, S. Stepanov, O. Makarov, R. Benn, S. Corcoran, W. Diete, M. Schwoerer-Boehing, R. Signorato, L. Schroeder, J.L. Smith, *AIP Conference Proceedings* (2006) – accepted.

"Biological XAFS at the BioCAT 18ID undulator beamline at the APS", R.A. Barrea, R. Fischetti, S. Stepanov, G. Rosenbaum, E. Kondrashkina, G.B. Bunker, E. Black, K. Zhang, D. Gore, R. Heurich, M. Vukonich, A.J. Kropf, S. Wang, and T.C. Irving, *Physica Scripta*, v.**T115**, p.867–869, (2005).

"The BioCAT undulator beamline 18ID: a facility for biological non-crystalline diffraction and X-ray absorption spectroscopy at the Advanced Photon Source", R. Fischetti, S. Stepanov, G. Rosenbaum, R. Barrea, E. Black, D. Gore, R. Heurich, E. Kondrashkina, A.J. Kropf, S. Wang, K. Zhang, T.C. Irving and G.B. Bunker, *J. Synchrotron Rad.* **11**, p.399-405 (2004).

"How to make X-ray simulation software working of WWW: A simple recipe based on seven years of experience", S.A. Stepanov, In: "Advances in Computational Methods for X-ray and Neutron Optics", Ed. M. Sanches del Rio, -- *Proceedings SPIE*, **5536**, p.165-170 (2004).

"X-ray server: an online resource for simulations of X-ray diffraction and scattering", S.A. Stepanov, In: "Advances in Computational Methods for X-ray and Neutron Optics", Ed. M. Sanches del Rio, -- *Proceedings SPIE*, **5536**, p.16-26 (2004).

"X-ray resonant magnetic scattering from structurally and magnetically rough interfaces in multilayered systems. I. Specular reflectivity", D.R. Lee, S.K. Sinha, D. Haskel, Y. Choi, J.C. Lang, S.A. Stepanov, and G. Srainer, *Phys. Rev. B*, v.**68**, No 22, p.224409, (2003) (19 pages).

"Contribution of X-Ray Diffraction and Infrared Reflectivity simulations to experimental study of high energy He implantation at high dose in 4H-SiC at room temperature", A. Declercy, A. Shiryaev, S. Stepanov, J.F. Barbot, M.F. Beaufort, E. Oliviero, C. Tromas, E. Ntsoenzok, and T. Sauvage, In: *Proceedings of International Conference on SiC and Related Materials 2003 (ICSCRM2003)*, Lyon, France, October 5-10 (2003); Part II, p.937-940.

"Electronic structure of Ni complexes by x-ray resonance Raman spectroscopy (resonant inelastic x-ray scattering)", P. Glatzel, U. Bergmann, W. Gu, H. Wang, S. Stepanov, B.S. Mandimutsira, C. Riordan, C.P. Horwitz, T. Collins, and S.P. Cramer, *J. Am. Chem. Soc. (Communication)*, v.**124**, No 33, p.9668-9669, (2002).

"X-ray resonant reflection from magnetic multilayers: Recursion matrix algorithm", S.A. Stepanov and S.K. Sinha, *Phys. Rev. B*, v.**61**, No 22, p. 15302-15311, (2000).

"X-ray diffuse scattering from interfaces in semiconductor multilayers", S.A. Stepanov, In: "Exploration of Subsurface Phenomena by Particle Scattering", Ed. N.Q. Lam, C.A. Melendres, and S.K. Sinha, -- *IASI Press*, 2000, p.119-137.

"Dynamical x-ray diffraction of multilayers and superlattices: Recursion matrix extension to grazing angles", S.A. Stepanov, E.A. Kondrashkina, R. Köhler, D.V. Novikov, G. Materlik, and S.M. Durbin, *Phys. Rev. B*, v.**57**, No 8, p. 4829-4841, (1998).

"Grazing-incidence x-ray scattering from stepped interfaces in AlAs/GaAs superlattices", E.A. Kondrashkina, S.A. Stepanov, R. Opitz, M. Schmidbauer, R. Köhler, R. Hey, M. Wassermeier, and D.V. Novikov, *Phys. Rev. B*, v.**56**, No 16, p. 10469-10482, (1997).

"Multiwave parametric x-ray radiation generated by particles in crystal", S.A. Stepanov, A.Ya. Silenko, A.P. Ulyanenkov, and I.Ya. Dubovskaya, *Poverkhn., Fiz. Khim. Mekh. (Russia)*, No 8, p.61-64, (1997), - in Russian.

"High-resolution grazing-incidence x-ray diffraction for characterization of defects in crystal surface layers", E.A. Kondrashkina, S.A. Stepanov, M. Schmidbauer, R. Opitz, and R. Köhler, *J. Appl. Phys.*, v.**81**, No 1, p.175-183, (1997).

